THE PUBLIC INTEREST ENERGY RESEARCH (PIER) PROGRAM

ENERGY GENERATION RESEARCH OFFICE

RENEWABLE ENERGY RESEARCH

REQUEST FOR PROPOSALS
RFP # 500-10-503
Research Needs for Utility-Scale Renewable Energy

State of California

California Energy Commission

October, 2010

Questions or clarifications about this RFP should be directed to:

Rachel Grant, Contracts Officer
California Energy Commission
1516 Ninth Street, MS-18
Sacramento, California 95814
Telephone: (916) 654-4379
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This RFP is available on the following Web Sites:

Energy Commission **http://www.energy.ca.gov/contracts**
California State Contracts **http://www.bidsync.com**

The Terms and Conditions for this RFP are available at the following Web Sites:

General Terms and Conditions: http://www.energy.ca.gov/contracts/pier.html
PIER CONTRACTORS' GENERAL INFORMATION:
PIER Terms and Conditions- Standard PIER Terms and Conditions

Copies of this RFP may be obtained by writing or calling:

California Energy Commission
1516 Ninth Street, MS-18
Sacramento, California 95814
Telephone: (916) 654-4392
FAX: (916) 654-4423

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RFP Organization

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Key Activities and Dates

Key activities and dates for this RFP are presented below. This is a tentative schedule. Please call the Commission Contracts Office to confirm dates.

ACTIVITY	Action Date
RFP Release	November 2, 2010
Pre-Bid Conference	November 9 and 16, 2010
Deadline for Submittal of Questions, no later than 3 PM	November 19, 2010
Distribute Questions/Answers and Addenda (if any) to RFP	December 7, 2010
Deadline to Submit Proposals, no later than 3 PM	December 21, 2010
Interviews with Bidders (if necessary)	January 18-21, 2011
Posting of Notice of Proposed Awards	February 22, 2011 (estimated)
Commission Business Meeting	March 2011 (estimated)
Agreement Start Date	April 2011 (estimated)
Agreement End Date (duration 3 years)	April 2014 (estimated)

Pre-Bid Conference

There will be two Pre-Bid Conferences; participation in these meetings is **optional** but encouraged. The Pre-Bid Conferences will be held at the date, time and location listed below. Please call (916) 654-4392 or refer to the Energy Commission's website at www.energy.ca.gov to confirm the date and time.

November 9, 2010, 10 a.m.

California Energy Commission
Hearing Room A; First Floor
1516 9th Street
Sacramento, CA 95814
Telephone: (916) 654-4392
(Web ex available at Sacramento site)

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November 16, 2010, 1:30 pm

University of California, San Diego
George T Booker Conference Room (Room number 2512)
Engineering Building Unit 1 (EBU1)
Engineer Lane
La Jolla, CA 92093
(For directions, contact Prof. Jan Kleissl
Tel (443) 527-2740)

Participation through WebEx

With a Direct Phone Number

1. Please go to https://energy.webex.com and enter the unique meeting number: **927 475 082**
2. When prompted, enter your information and the following meeting password: meeting@10am
3. After you login, a prompt will appear on-screen for you to provide your phone number. In the Number box, type your area code and phone number and click OK to receive a call back on your phone for the audio of the meeting. International callers can use the "Country/Region" button to help make their connection.

With an Extension Phone Number

1. Please go to https://energy.webex.com and enter the unique meeting number: **927 475 082**
2. When prompted, enter your information and the following meeting password: meeting@10am
3. After you login, a prompt will ask for your phone number. CLICK CANCEL.
4. Instead call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the meeting number above and your unique Attendee ID number which is listed in the top left area of your screen after you login. International callers can dial in using the "Show all global call-in numbers" link (also in the top left area).

Telephone Only (No Computer Access)

1. Call 1-866-469-3239 (toll-free in the U.S. and Canada) and when prompted enter the unique meeting number above. International callers can select their number from https://energy.webex.com/energy/globalcallin.php

Technical Support

For help with problems or questions trying to join or attend the meeting, please call WebEx Technical Support at 1-866-229-3239.

System Requirements: To see if your computer is compatible, visit http://support.webex.com/support/system-requirements.html and refer to the "WBS 26 System Requirements" section at the bottom

**Please be aware that the workshop's WebEx audio and onscreen activity may be recorded.

Questions

During the RFP process, questions of clarification about this RFP must be directed to the Contracts Officer listed in the following section. You may submit questions up to 3:00 pm on the date listed in the Key Activities and Dates. Questions may be submitted in writing via mail, electronic mail, FAX, verbally and by phone. Question and answer sets will be sent to all parties who requested a copy of this RFP from the Commission Contracts Office. The questions and answers will also be posted on the Commission's website at:

http://www.energy.ca.gov/contracts

Any verbal communication with a Commission employee concerning this RFP is not binding on the State and shall in no way alter a specification, term, or condition of the RFP.

I. INTRODUCTION

Contact

Rachel Grant, Contracts Officer
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RFP Purpose

The purpose of this solicitation is to help meet Research, Development and Demonstration (RD&D) needs related to more rapid and environmentally responsible deployment of Utility-Scale Renewable Energy (USRE) to the California electricity grid. The goal is to support increased market penetration of multiple renewable energy technologies; reduction of impacts on land use, water consumption and ecosystem resources; and mitigation of technical and economic barriers to the increased injection of non-baseload renewable energy sources into the transmission system. Critical objectives of this solicitation are to: develop new applications of mixed (hybrid and/or integrated) renewable energy technologies; develop and demonstrate innovative cost-effective designs, technologies or combinations of technologies; develop mitigation approaches that result in reduced environmental impacts, especially from utility-scale solar installations; design, develop and demonstrate engineering and modeling approaches for the management of variable energy resources.

This solicitation includes the public input received during the Information Exchange Workshop held on April 6, 2010 about the goals, benefits, issues, gaps and opportunities, RD&D solutions, and market mechanisms to help accelerate research and development and increased deployment of integrated renewable energy technologies (such as biomass, solar, wind, geothermal and storage) to be applied at the utility-scale level and/or RD&D into more environmentally sound USRE technologies. This request for proposal (RFP) will help in the development and integration of advanced technologies, so as to make them competitive and reduce system and storage costs. It will also help in bringing to market USRE technologies with lower environmental impacts than the current technologies.

Background

An increasingly diverse array of renewable energy technologies is now being developed and deployed in an equally diverse array of ways, ranging from utility-scale power plants to energy sources for buildings that require no net energy from the local grid. The primary technical challenges relate to the technologies, tools and strategies that enable their integrated and coordinated use. Technical challenges also confront the integration of renewable energy facilities with the surrounding environment in a manner that has low impacts, and in particular low land and fresh water requirements, and minimal impacts to sensitive species and ecosystems.

There are two key integration challenges to greater penetration of USRE into the state's electricity system:

- Some renewable energy resources, such as wind and solar, have variable energy output
- The current transmission infrastructure has limited capacity in remote high quality resource areas to support significant penetration of utility-scale renewable resources in these areas

I. INTRODUCTION

California energy policies and directives prioritize reducing the state's dependence on imported natural gas through diversification of its gas supplies. For instance, the *2008 Energy Action Plan Update* recognized the need for additional research to establish or improve the viability of these natural gas alternatives, particularly solar thermal technologies, which are potential renewable resources that could reduce or displace consumption of natural gas.

Energy storage is a key enabling technology to improve solar power plant economic performance and value and/or increase grid operational flexibility to accommodate the variable nature of some renewable technologies such as wind and solar. The operational flexibility and capacity of utility-scale storage in California is likely to become more important as the penetration of USRE resources increases. The only utility-scale storage facilities in California currently available are pumped hydro units. From 1990-2007, only 0.5 percent of delivered electricity in California came from storage, primarily from pumped hydro.[1] As of 2008, the installed pumped storage capacity in the state was 3.7 GW.[2] A conservative estimate from April 2009 suggests that an additional 4 GW of storage will be needed in the state to obtain 33 percent of electricity from eligible renewable energy resources by 2020, effectively requiring double the existing capacity.[3]

New renewable projects and transmission lines may create a range of significant and long-lasting environmental impacts.[4] For example, solar projects using current technologies involve extremely large areas: a single solar project can cover as much as 10,000 acres. The cumulative land use impact of multiple projects can be significant. The analyses demonstrate that these projects have the potential to create a range of significant and long-lasting environmental impacts. Some of the environmental impacts that can result from utility-scale renewable generation facilities, which are now being studied in an attempt to develop appropriate mitigation, are the following:

- A permanent loss of habitat for protected wildlife species and special status plants may occur. The availability of adequate mitigation land to compensate is uncertain, especially for expansive solar projects.
- Utility-scale and/or multiple adjacent projects in known or possible wildlife corridors would potentially constrain or eliminate important linkages between sensitive population groups.
- A cumulative loss of natural resources would occur as the impacts above are realized throughout California – especially in its ecologically fragile desert areas, where more than 100 projects are already proposed.

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[1] California Electricity Profile, 2007 http://www.eia.doe.gov/cneaf/electricity/st_profiles/sept05ca.xls

[2] California Electricity Profile, 2007http://www.eia.doe.gov/cneaf/electricity/st_profiles/sept04ca.xls

[3] IEPR 2009 Presentation, 2020 Vision, April 2009 http://www.energy.ca.gov/2009_energypolicy/documents/2009-04-02_workshop/presentations/1_7%20MegaWatt%20Storage%20Farms%20-%20Ed%20Cazalet.pdf

[4] *33% Renewable Portfolio Standard: Implementation Analysis Preliminary Results*. p. 54. California Public Utilities Commission. http://www.cpuc.ca.gov/NR/rdonlyres/1865C207-FEB5-43CF-99EB-A212B78467F6/0/33PercentRPSImplementationAnalysisInterimReport.pdf

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California Utility-Scale Renewable Energy Policy

There are two major energy policy components in California that are driving the integration of USRE resources: Executive Order S-14-08 and Assembly Bill 32 (Nunez, Chapter 488, Statutes of 2006).

S-14-08 ordered an increase in the required Renewable Portfolio Standard (RPS) to 33 percent by 2020. This Order seeks to accelerate renewable energy resource development by simplifying the siting, permitting, and procurement processes for new generation. It directed Renewable Energy Transmission Initiative (RETI) to identify low environmental impact Competitive Renewable Energy Zones (CREZ) and the Energy Commission and the California Department of Fish and Game (DFG) to develop a conservation plan to protect and conserve resources while expediting the permitting, and licensing process for RPS-eligible renewable energy projects. As part of this effort, a science-driven Desert Renewable Energy Conservation Plan (DRECP) for the Mojave and Colorado Deserts of California is being prepared which is intended to become the state road map for renewable energy project development that will advance state and federal conservation goals while facilitating the timely permitting of renewable energy projects in these desert regions.

The California Public Utilities Commission (CPUC) suggests that the technology mix, for the baseline scenario to reach 33 percent by 2020, will require nearly 24GW of new renewable capacity or an increase over current values in annual renewable generation of 75 TWh.[5] The majority is predicted to come from wind, solar thermal, geothermal, solar photovoltaics (PV) (at generation of 44 percent, 24 percent, 15 percent, 9 percent respectively) and the rest from low levels of biomass, biogas and small hydro (generation of 4 percent, 3 percent and <1 percent respectively).

Assembly Bill 32, also called the California Global Warming Solutions Act of 2006, establishes a cap on greenhouse gas emissions by 2020 equivalent to 1990 levels. In its Climate Change Scoping Plan, issued in December 2008, the California Air Resources Board (CARB) estimated that the 33 percent RPS target would provide 21.3MMT,[6] or 15 percent of the 146.7 MMT of carbon dioxide equivalent savings needed to meet the AB32 2020 target.[7] CARB considers the 33 percent RPS a “key element” in its recommendations for reducing greenhouse gas emissions.

PIER Renewables and Environmental Groups intend to use this Utility-Scale solicitation to fund the prioritized area of RD&D, where investment by PIER would produce a maximum benefit for the state in meeting its renewable energy and environmental stewardship goals. PIER’s USRE Program is looking forward to making vital RD&D contributions toward achievement of California’s 33 percent RPS and to reduce GHG levels 80 percent below 1990 levels by 2050 as defined in Assembly Bill 32and other state directives through the strategic implementation of a portfolio of impactful USRE and storage projects.

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[5] CPUC, 33% Renewables Portfolio Standard Implementation Analysis Preliminary Results, June 2009, p. 87

http://docs.cpuc.ca.gov/PUBLISHED/GRAPHICS/102354.PDF

[6] Million Metric Ton

[7] Climate Change Scoping Plan: A Framework for Change. Prepared by the California Air Resources Board. December 2008. http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf (accessed June 8, 2009).

I. INTRODUCTION

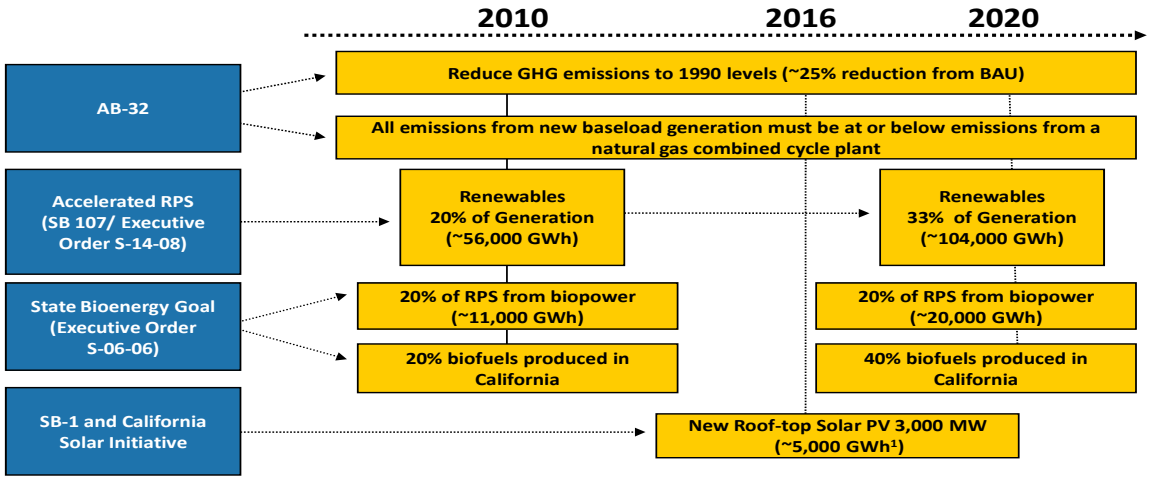

Figure 1: California Utility-Scale Renewable Energy Policy Timeline

List of Proposed Target Areas:

The proposed projects must target one of the following four Research Areas:

Research Area	Description
A.	Renewable Hybrid Generation and Energy Storage Integration Demonstration
B.	Monitoring and Forecasting Analysis
C.	Thermal Energy Storage Modeling
D.	Environmental Mitigation for Utility-Scale Solar Energy Technologies

Table 1: List of Proposed Target Areas

Details of these Target Areas are provided under “Goals and Objectives of this RFP”.

I. INTRODUCTION

Who can bid on this RFP?

This solicitation is restricted to private entities, including non-profit organizations and private universities, and any public entities that can meet the requirements of this solicitation (e.g., Disabled Veteran Business Enterprise participation and match funding) and agree to the referenced terms and conditions that will be included in the resulting agreements. Even if public entities cannot meet these requirements or agree to the terms, they can still participate as subcontractors.

The reason for this distinction is that the Department of General Services, which has oversight of state contracting, no longer allows the Energy Commission to include different terms and conditions within the same solicitation. The Energy Commission used to do this because some public entities cannot agree to the same terms and conditions that apply to private entities.

- Every entity that bids under this solicitation must meet the solicitation's requirements and must agree to the terms and conditions included. The Energy Commission will not award contracts to non-complying entities.

Entities can submit more than one proposal to this solicitation. However, each proposal must be distinct and include an independent scope of work.

Funding Level

The Energy Commission currently has $7,368,140 available for this RFP, but reserves the right to alter this amount up or down. The Energy Commission also reserves the right to alter the amount of funding that is given to a particular project selected for an award, or to make no awards. If funds are reduced, the selected Contractor(s) and Commission Contract Manager (CCM) shall meet and reach agreement on a reduced scope of work commensurate with the level of available funding. The Energy Commission reserves the right to move available funding from any research area to a different research area within this solicitation. Out of a total of $7,368,140 for this solicitation, $4,868,140 is contributed by the PIER Renewables – Electric; $1.5 million by PIER Renewable Natural Gas; and $1 million by the PIER Environmental Group.

$5,018,140 is proposed to be awarded to the Renewable Hybrid Generation and Energy Storage Integration Demonstration Projects **(**Research Area A). The maximum PIER funding for individual projects in this area is $2 million; therefore, three to four projects under this area are expected to be funded.

$1.35 million is proposed to be awarded to projects in the Monitoring and Forecasting Analysis, and Thermal Energy Storage Modeling Research Areas (Research Areas B and C). The maximum PIER funding for individual projects in these areas is $450,000. The number of projects funded is expected to be three to four projects.

$1 million is proposed to be awarded to projects in the Environmental Mitigation for Utility-Scale Solar Energy Technologies research area (Research Area D). The maximum PIER funding for individual projects in this area is $1 million, and one or two projects under this area are expected to be funded.

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Each submitted proposal should be directed at one and only one of the four specific research areas listed (Research Area A through D). The research area that a proposal is targeting should be clearly identified on the cover page and within the body of the proposal.

It is recognized that some applicants may be planning a project that has aspects which fall in more than one research areas. For such projects, applicants must submit separate proposals directed at each respective research area, so that the scope of work and budget for each proposal covers activities falling in the respective research area, and the requested funding are within the limits of that particular research area

Neither PIER funds nor match funds can be spent until the Department of General Services, Office of Legal Services (DGS-OLS) approves the Agreement, which occurs after it has been signed by both the Contractor and the Commission.

Public Interest Energy Research (PIER) Program

In 1996, Governor Wilson signed into law Assembly Bill (AB) 1890 (Brute, Chapter 854, Statutes of 1996) which provided authority for a fundamental restructuring of California's electric services industry. Among other things, AB 1890 required that at least $62.5 million be collected annually from investor-owned electric utility ratepayers for “public interest” energy RD&D efforts not adequately provided by competitive and regulated markets. The California Energy Commission administers these funds through the PIER program. The funds for this solicitation are from the Electricity program.

PIER brings new energy services and products to the marketplace and creates state-wide environmental and economic benefits. PIER funding efforts are focused on the following RD&D program areas:

1. Buildings End-Use Energy Efficiency
2. Energy Innovations Small Grants
3. Energy-Related Environmental Research
4. Energy Systems Integration
5. Industrial/Agricultural/Water End-Use Energy Efficiency (IAW)
6. Renewable Energy Technologies
7. Transportation Research

The PIER program focus has been directed toward resolving these issues and meeting the overall PIER objectives of improving affordability, reliability, health and safety, California's economy, environmental outcomes, and consumer choices relevant to electricity supply and use in California.

Match Funding Requirements

Match funding of at least 20 percent of the requested PIER funding is required. Match funding beyond 20% is evaluated and scored as part of the technical and policy evaluation criteria. Projects that will likely lead to commercialized products and services in the near future will generally need a higher percentage of matching funds than projects that are further removed in time from commercialization.

Match funding may be cash, in-kind services or a combination of the two. In-kind contributions include, but are not limited to, donated labor hours, equipment, facilities, property, and arrangements with project partners to bring the results of the project to the market. Equipment, facilities (e.g. laboratory space) and most property can count as match funds as long as they are fully dedicated to the project for the time the equipment, facility or property is required by the Agreement, and as long as the value of the contribution is based on documented market values or book values and is depreciated or amortized over the term of the project using standard accounting principles. Equipment, facilities and property that do not qualify as match funds include such items as standard office supplies and property or equipment that is part of the Bidder's normal business activity (desks, typewriters, telephones, computers, software, etc.).

Prior investments in the research to be conducted in this project do not qualify as match funds. Also, funding from other Commission projects or agreements does not qualify as match funding.

Budgets must show match fund contributions at the task level. Match fund contributions must be spent concurrently with PIER Program funds, and only on the tasks described in the proposal.

Applicants are encouraged to include letters of commitment provided for each source of match funding, including the amount and form in which the funding will be received.

For additional information regarding match funding, see Section III, Evaluation Process and Criteria, and Section V, Proposal Format and Required Documents.

The Commission reserves the right to review and approve or disapprove the crediting of contributions and the amounts of those contributions as match funding. The loss of match funds during the Agreement is a reason for the Commission to hold a Critical Project Review and may result in the termination of the Agreement.

Equipment Purchases

Please be aware if State funds are used to purchase or build equipment, The State retains an ownership interest in it (please review within Section IV the part involving *Key Words and Their Definitions* and the PIER Agreement Terms and Conditions for specific requirements[8]).

Out-of-State Travel

Because state-funded, out-of-state travel is scrutinized carefully and sometimes denied, it is highly recommend that Bidders use match funding or their own funds for any out-of-state travel expenses.

[8] Posted on the Energy Commission website: energy.ca.gov/contracts, PIER Terms and Conditions for specific requirements.

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Regulatory Requirements

PIER funding cannot be used to support efforts necessary to meet permitting requirements including those necessary to meet the California Environmental Quality Act or the National Environmental Policy Act. This includes mitigation or monitoring requirements necessitated by a permit.

Any regulatory requirements necessary to implement the PIER funded research will be borne by the applicant.

II. GOALS AND OBJECTIVES OF THIS RFP

This section explains the specific goals and objectives of this solicitation. In funding RD&D activities, the PIER Renewables and Environmental Programs seek proposals for innovative technologies to accelerate market penetration of promising USRE technologies, their integration and storage, while reducing environmental impact.

The definition of a Utility-Scale plant for the purpose of this solicitation has a name plate rating equal to or in excess of 10 MW. It is encouraged that the proposed projects for this solicitation be conducted at a USRE plant. However, if the project is not performed at the USRE scale, the applicant must demonstrate that the deliverables that result from the proposed project will be directly relevant to USRE plants and will help advance market penetration of USRE and/or mitigate the environmental impacts of solar USRE.

PIER Renewables has a limited budget and needs to focus its RD&D efforts within the utility-scale program on a limited number of areas in which it can have the most impact, keeping an overview of the policy drivers (such as RPS and Executive Order S-14-08), key issues, technology gaps, and parallel efforts related to USRE RD&D. The USRE solicitation addresses RD&D of the array of technical integration and storage issues related to the renewable energy. It will also help in development of data and tools needed to plan and operate USRE power plants in concert with state, regional and local transmission resources, and environmental laws.

Proposed Research

The strategic purpose of this solicitation is to bring high impact innovative solutions to facilitate penetration of USRE into California's electricity system. Specifically, this solicitation is seeking research solutions to improve intermittent renewable energy integration into the state's electrical grid and reduce the environmental footprint of utility-scale energy development.

There are four (4) research areas to target in this research endeavor, taking into account criteria such as connection to state energy policy, opportunities unaddressed by other research entities, potential impact per dollar spent, timeliness of outcomes, and the potential for partnership with other organizations. The following four approaches to improving variable renewable energy resource integration into the grid are addressed in this solicitation:

A. Renewable Hybrid Generation and Energy Storage Integration Demonstration Projects:

   Hybrid or co-locating generation resources may smooth the variable energy output of renewable energy resources as well as reduce transmission line needs. Integration of renewable energy and energy storage can also smooth variable energy output, increase peak on-line availability of renewable energy, increase system flexibility and maximize transmission line use.

B. Monitoring and Forecasting Analysis Projects:

   Forecasting and monitoring of variable renewable energy output in a way that helps the grid accommodate its variable output.

C. Thermal Energy Storage Modeling Projects:

   Storage modeling to develop and deploy advanced heat transfer fluids and thermal storage systems (such as system analysis issues related to evaluation and improving performance and cost of thermal storage systems) to increase the benefits of higher penetrations of USRE.

D. Environmental Mitigation for Utility-Scale Solar Energy Technologies Projects:

II. GOALS AND OBJECTIVES OF THIS RFP

Reducing impacts associated with utility-scale solar energy development for greater penetration of USRE into California's electricity system, specifically the immense amount of acreage and, for thermal solar energy, the potential for significant water demand.

Project requirements for each research area are shown below:

A. Renewable Hybrid Generation and Energy Storage Integration Demonstration Projects:

Eligible projects shall include the following two phases:

- Assessment study to include analysis and justification of the proposed hybrid and/or integration project. This will include addressing resolution of technical and economic barriers to wide-scale deployment of utility-scale renewable technologies on the grid, and will examine whether the public benefits of successful commercialization would greatly exceed the cost of developing and demonstrating the proposed concept.
- Demonstration of the proposed hybrid and/or integration project.

The proposed project shall address one or more of the following technical objectives:

- Synergistic integration, at the power plant level, of a renewable generation source with another renewable generation resource and/or a storage resource in a way that enhances the value or reduces the cost of generation.
- Resolution of renewable energy integration issues across regions and technology (for example wind, solar, storage) mixes and provide quantitative metrics (such as cost of energy generation) to address those issues.
- Integration of variable renewable technologies, especially concentrated solar power (CSP), and demonstration of optimal sizing and configuration of high temperature thermal storage technology at different penetration levels.
- System hybridization and integration addressing the technical barriers to wide-scale deployment of utility-scale renewable technologies on the grid, by developing smarter technologies, supporting testing and field demonstration, and focus on economic barriers, including project design.
- Minimize unit commitment impacts and costs through shaping generation and/or firming resource options.
- Building on development of existing modeling tools for intermittency/variability and integration projects with involvement of key stakeholders (such as CAISO, CPUC etc.). This will be supplemented by project testing and field demonstration.
- Develop low-cost and thermally efficient energy storage system, which helps in replacement of natural gas fired power plants with clean renewable resources.

In the context of this solicitation, the term *hybrid* is used to denote power plant configurations incorporating multiple elements that normally may be deployed at separate sites. For example:

- Geothermal and solar thermal heat collection systems could feed the same thermal power plant.

- Wind turbines and solar PV arrays could share the same site and electricity collection infrastructure, while minimizing land use per kWh delivered to the grid.
- Electric energy storage (e.g. battery and/or compressed air) could be deployed at a wind or utility solar photovoltaic plant site).

In the context of this solicitation, the term renewable energy integration refers to planning, operating, and coordinating individual elements of the electric system (that is, power plants, transmission and operational controls, including different renewable generation sources) in a manner that results in least cost electricity supply to the end user.

B. Monitoring and Forecasting Analysis Projects:

Monitoring and forecasting of variable renewable technologies projects are sought that will help the grid accommodate its variable output. A standard system to deliver renewable energy forecasts is needed to guide generation resource planning, generation and storage plant siting, transmission planning, and development of technical and market mechanisms to achieve economically optimum performance of the state's electric supply and delivery system.

The proposed project shall provide analysis and modeling tools addressing one or more of the following technical objectives:

- Forecasting and monitoring of variable output renewable energy in a way that helps the grid accommodate its variable output. Particular emphasis should be placed on solar given the anticipated expansion of this area and the potential for solar generation to be deployed more diversely across system sizes and locations.
- Use of satellite data to track cloud formations and estimate times of cloud cover. Use of Doppler radar images and state of the art meteorological models to forecast cloud formations affecting solar power plant radiation capture.
- Use of satellite data, including ground-based calibration, to simulate electricity production by off-shore wind plants in selected area over a typical year and determine the relative accuracy of methods to forecast off shore production compared to on-shore production.
- Concepts for minute-ahead and second-ahead wind forecasting for use in maximizing production continuity and aerodynamic performance.
- Development of numerical and statistical mathematical models using real-time local and regional meteorological and power output data as well as historical data, to predict wind and solar output seconds, minutes, hours and days ahead of time.
- Improve the accuracy of forecasting, data collection, statistical parameters, data modeling/processing and control room integration day-ahead and hour-ahead markets and generate a critical input for grid-wide control and prediction systems.
- Develop advanced computer models to quantify variations in renewable energy generation at increased levels of penetration. Incorporate the leveling effect of geographic diversity in predictive models

C. Thermal Energy Storage Modeling Projects:

As USRE penetration increases, the benefits of higher capacity operation of variable renewable plants will also increase. Thermal energy storage systems have been deployed at the utility-scale at various concentrated solar thermal power plants in the U.S. and in Spain. Despite these deployments, further cost reductions are necessary. There is need for system analysis, as well as evaluation and improvement in performance and cost of thermal storage systems.

The proposed modeling project shall address one or more of the following technical objectives:

- Thermal energy storage modeling for comparative evaluation of heat transfer and fluid dynamics of various storage systems (such as one- and two-tank thermocline), thermal energy storage media (such as molten-salt, high-temperature concrete and phase-change materials) to determine relative technical and performance objectives and the most appropriate option for various Concentrated Solar Power (CSP) systems (such as parabolic troughs, dish/Sterling engine and power tower), identifying and testing more cost efficient heat transfer fluids, storage materials, and storage system designs
- Resolution of system analysis issues related to optimum system options, evaluation and improving performance and cost of thermal storage systems and deployment of advanced heat transfer fluids and thermal storage systems (across all CSP technologies)
- Evaluation modeling of storage coupled CSP configurations where natural gas supplementation would result in major electric system economic benefits
- Develop low-cost and thermally efficient energy storage system for CSP, so as to replace /displace natural gas consumption.
- Modeling and analysis activities related to identification and testing of more cost efficient heat transfer fluids, storage materials, and storage system designs across all CSP technologies. This includes various options such as direct compared to indirect sensible heat systems; liquid compared to solid storage materials; phase change materials.[9]
- Study to better understand how high temperature storage would be sized and configured to maximize economic advantage in California CSP plants as CSP grid penetration increases.

D. Environmental Mitigation for Utility-Scale Solar Energy Technologies Projects:

This research area requests RD&D aimed at innovative utility-scale solar energy technologies, spatial arrays, and methods of installation/maintenance that result in significantly lowered facility footprint and/or land impact. This research area is also looking for innovative approaches to reduce the major freshwater consuming aspects of utility-scale solar energy.

The proposed project shall address one or more of the following technical objectives:

[9] http://www.nrel.gov/csp/troughnet/thermal_energy_storage.html

- Technology solutions or approaches that will support greater solar energy penetration in the California electricity grid by reducing project specific demands on land and fresh water, such as more efficient technologies that reduce land footprint per unit solar generation.
- Innovative technologies or approaches that significantly reduce negative impacts on sensitive species and/or ecosystems for a given amount of solar generation and/or significantly improve the sustainable co-existence of the solar plant and the surrounding wildlife and environment compared to current solar technologies or approaches.
- Technologies that can better utilize areas of sub-optimal solar resources, and/or be installed on a wider or different range of slope and terrain than current solar technologies, and/or have greater flexibility in plant configuration and footprint shape, therefore expanding site selection options and opportunity for avoidance of sensitive or undisturbed habitats and increased utilization of disturbed or developed land for utility-scale solar.
- Alternative site preparation treatments with significantly reduced impacts on biological resources (for example, alternative site layouts, installation techniques that reduce grading).
- Innovative methods to mitigate the cost and performance penalties associated with the use of air cooled condensers or hybrid cooling technologies for power plant cooling (steam condensation) at solar thermal power plant projects.

Proposals should demonstrate how the technology/approach is innovative compared to currently proposed or built solar plants and describe in detail the methods and degree to which the footprint or impacts to sensitive biological resources is reduced. The specific environmental issue being addressed, the research question(s), and a robust scientific methodology must be clearly presented. Proposals addressing a critical environmental issue are preferable to those proposing only slight reductions to the typical habitat impacts associated with solar plants, slight reductions in water use or approaches that are similar to those in current practice.

Applicants to this research area must list any prior or planned activities related to the permitting of solar energy projects by the applicant, its employees, or any subcontractors use for the proposal. Any agreements or working relationships with anyone who has a permit application for a solar energy development that will be pending at the time of the award, and/or who is contesting an environmental permit that will be pending at the time of the award should also be disclosed in the proposal.

III. EVALUATION PROCESS AND CRITERIA

Under this solicitation, the Energy Commission makes awards based upon high score. California Public Contract Code Section 10344(c) authorizes this method. The State Contract Manual refers to this as the "secondary" RFP method as opposed to the "primary" method, which makes awards based upon low bid.

This section explains the overall evaluation process and the technical and policy evaluation criteria. It also describes how the proposals will be screened for administrative requirements, completeness, technical eligibility, and fundamental scientific feasibility. It also describes the evaluation stages, preference points, and scoring of all proposals.

The entire evaluation process from receipt of proposals to the posting of the Notice of Proposed Award is confidential.

A Bidder's proposal will be evaluated and scored based on its response to the information requested in this RFP. During the evaluation and selection process, the Evaluation Committee members, at their sole discretion, may interview a Bidder either by telephone or in person at the Energy Commission, and/or conduct a site visit at the Bidder's facilities for the purpose of clarification and verification of information provided in the proposal. However, these interviews may not be used to change or add to the contents of the original proposal. The Evaluation Committee may seek input from technical reviewers both internal and external to the Energy Commission when evaluating proposals.

Proposal Screening Process

Screenings

All proposals will be initially screened for compliance with administrative requirements, completeness, technical eligibility, and technical feasibility. Proposals that fail any screening will not be evaluated further under this RFP.

Administrative Screening

A proposal will be rejected if it falls under conditions mentioned in "Ground for Rejections" in Section IV – Administration Information.

Completeness Screening

A proposal must follow the format and contain all of the information described in RFP Section V or the proposal will fail the completeness screening and will be rejected prior to the technical evaluations. In particular, proposals will be screened for completeness on the basis of whether or not the proposal contains sufficient information to enable a useful evaluation to be conducted.

Technical Eligibility Screening

To be eligible for possible funding under this RFP, proposals must meet all of the following eligibility criteria. Proposals that fail the technical eligibility screening will not be evaluated further under this RFP.

Performance Goals Addressed

The proposal must specify goals to be achieved in the proposed research.

Impacts and Benefits for California

The proposal must provide clearly-identified benefits to California's electricity and natural gas ratepayers.

California Policies

The proposal must address how the project will help in meeting:

- California's 33% Renewable Portfolio Standard (RPS)
- Greenhouse gas reductions goals (including Federal and California environmental protection laws).

III. EVALUATION PROCESS AND CRITERIA

Technical Feasibility Screening

Proposals will be evaluated for fundamental feasibility on the basis of whether the proposed work appears to comply with known scientific principles, and if not, whether the work contains a sufficiently sound explanation to justify proceeding with a further evaluation.

Proposals that fail any screening will not be evaluated further under this RFP.

Scoring Process

Proposals must pass the screenings to be eligible for the technical and feasibility evaluation scoring by the Evaluation Committee. During the evaluation process, all proposal evaluators and scorers will keep the contents of the proposals confidential.

The Evaluation Committee will evaluate and score proposals according to the evaluation criteria described below. The minimum passing Technical Evaluation Score is 75. If applicable, the Non-Technical Preference Points are added to passing Technical Evaluation Scores.

Upon completion of the technical and non-technical evaluation scoring, the Evaluation Committee will prepare a ranked list of the proposals, for each research area (A though D), in descending order, based upon each proposal's total score. Each submitted proposal will only be considered and ranked under one research area. The ranked lists are recommendations that will be submitted to the Energy Commission's RD&D Policy Committee for consideration and approval. The RD&D Policy Committee will recommend how far down the ranked list of passing proposals to give awards in each respective research area. A proposal in one research area cannot be awarded funding from any other research area, even if the proposal has a higher point score than proposals in the other research areas. Awards approved by the RD&D Policy Committee will then be considered by the Energy Commission at a Business Meeting.

Scoring Scale

The Evaluation Committee will give a score from zero (0) to ten (10) for each criterion described below, based upon the information provided by the Bidder's proposal. Each score will then be multiplied by a weighting factor to obtain the total points for that criterion. Scores will be assigned in accordance with the following guidelines:

0 Points	✓	Is not in substantial accord with the RFP requirements.
	✓	Has a potential significant effect on the amount paid or net cost to the State or the quality or quantity of product and/or service.
	✓	Provides an advantage to one competitor over the other competitors, for example, not paying minimum wages.
1-3 Points	✓	The proposal states a requirement, but offers no explanation of how or what will be accomplished.
	✓	The response contains a technical deficiency which is an inaccurate statement or reference concerning the how, what, where, or when, which is part of an overall statement or description.
4-6 Points	✓	Satisfies the minimum requirements and describes generally how and/or what will be accomplished.
7-9 Points	✓	Satisfies the minimum requirements and specifically describes how and/or what will be accomplished in an exemplary manner, using sample products and illustrative materials (i.e., diagrams, charts, graphs, etc.).
10 Points	✓	Exceeds the minimum requirements and specifically describes how and/or what will be accomplished both quantitatively and qualitatively, using sample products and illustrative materials (i.e., diagrams, charts, graphs, etc.).

III. EVALUATION PROCESS AND CRITERIA

Technical and Policy Evaluation Criteria

All proposals that pass the administrative, completeness, technical eligibility, and feasibility screening will be evaluated for merit based on the following criteria:

Detailed Technical, Policy and Cost Scoring Criteria	Maximum Total Score
1. Description of Technologies/Innovations, Policy, Barriers, and Gap Analyses • Does the proposal sufficiently address the goals and one specific research area of this solicitation? • How will the project help with addressing California's energy policies, including AB32, Renewable Portfolio Standard goals, and environmental laws? • Does the proposal identify the current status of the subject technology/innovation as has been developed by the research and industrial community at large? What research has been done or is currently being performed on this topic? How will the proposed project leverage results from previous work? • Does the proposal clearly address significant barriers, knowledge gaps, and solutions to the expanded development of renewable energy at the utility-scale? How is science and technology advanced? • Does the proposal explain how the project is unique, critically needed and not duplicative of other efforts? • To what degree does the proposed project contribute to a balanced portfolio across technology types, levels of risk, and/or time to commercialization?	**20 Points** **(Weighting Factor 2)**
2. Technical Goals and Descriptions of Proposed RD&D • Does the proposal describe the quantitative/measurable technical and economic performance goals? What criteria will be used to determine project successes and failures? How will necessary improvements be implemented? • Does the proposed project clearly describe the validity of the proposed technical approach, as well as the likelihood of success based on the soundness of the scientific and engineering principles employed? • Are the technical tasks clearly and logically presented, with appropriate objectives, discrete tasks, sequence of activities, appropriate deliverables, schedule, and budget? • Does the proposal include a sound project plan that indicates the expected outcome and likelihood of success? • Does the proposal state and quantify the specific benefits, such as cost reduction, energy penetration, reliability improvement, and reduced environmental impacts that the proposed project will provide to electricity ratepayers?	**25 Points** **(Weighting Factor 2.5)**
3. Cost Points • Is the project cost consistent with the proposed work? • Are the project personnel rates, operating expenses, and overhead costs reasonable for the proposed work and consistent with experience of the project team? • Is the expected PIER funding appropriate and consistent with the expected level of public benefits resulting from the proposed project?	**30 Points** **(Weighting Factor 3)**

III. EVALUATION PROCESS AND CRITERIA

Detailed Technical, Policy and Cost Scoring Criteria	Maximum Total Score
• Degree to which the economical potential for the proposed project exceed PIER investment?	
4. Project Manager, Project Team, Match Funding and Market Connectedness • Does the proposal justify that the project manager and team members have the technical capabilities and specific experience to successfully manage the project, including scope, schedule and cost, and report results and accomplishments in a timely and effective manner? • What past and current work related to the proposed technology/innovation has been performed by the project team, including successes and failures? • Does the proposal express degree of commitment from applicant and project partners as evidenced by letters of commitment or support? • Does the proposal indicate stakeholders and beneficiaries of the proposed technology? • Does the proposal include a sound plan for the communication of project results to the market? • How efficiently can the project team replicate and scale the proposed technology? • Is the portion of the budget provided by match funding representative of the ratio of private benefit to public benefit that the project results will provide? • Is the level of match funding consistent with the expected timeframe for commercialization of the proposed technology?	**10 Points** **(Weighting Factor 1)**
5. Target Research Areas – Different criteria will be used for different research areas as shown below: **A. Renewable Hybrid Generation and Energy Storage Integration Demonstration Projects** *–Following criteria will be used for research area A **only**:* • Does the proposal include both phases outlined in the research areas section: Assessment study and demonstration project? • To what degree does the project address barriers to greater hybridization and integration of multiple renewable energy and storage technologies? • Does the proposal include a thermodynamic analysis, including discussion and graphical representation of mass and energy balance? • Does the proposal include an assessment study, including capital and operating costs, cost/benefit analysis, payback period, installed cost per MWe, Levelized Cost of Energy (LCOE), Return on Investment (ROI), avoided cost of electricity, quantification of overall climate change benefits of the project? • Does the proposal clearly describe how the new technology or innovation will reduce environmental impacts? • Does the proposal indicate replacement/displacement of natural gas consumption? --- **B. Monitoring and Forecasting Analysis Projects** *–Following criteria will be used for research area B **only**:* • How does the proposed project improve the accuracy of forecasting for intermittent renewable technologies?	**15 Points** **(Weighting Factor 1.5)**

III. EVALUATION PROCESS AND CRITERIA

Detailed Technical, Policy and Cost Scoring Criteria	Maximum Total Score
• Does the proposal describe the extent of improvement in the generation resource planning and operation? • How will the project results be used to improve scheduling and transmission planning? --- **C. Thermal Energy Storage Modeling Projects** *–Following criteria will be used for research area C **only**:* • How will the proposed project advance the economic and/or technical benefit of thermal storage? • Does the modeling include heat transfer fluid, storage material and storage design across different CSP technologies? • Does the proposal show assessment of replacement/displacement of natural gas consumption • Does the proposed modeling technique consider major factors associated with thermal energy storage? What is the predicted accuracy of the model? --- **D. Environmental Mitigation for Utility-Scale Solar Energy Projects** *–Following criteria will be used for research area D **only**:* • Has the proposal clearly defined the environmental issue being addressed? • Does the proposal convincingly address a new, innovative technology or approach aimed at reducing environmental impacts of utility-scale solar plants? • Does the proposal clearly and quantitatively describe how the technology or innovation will significantly reduce environmental impacts of utility-scale solar? • Is the project important within the context of reducing or avoiding negative environmental impacts of solar energy development? • Are prior/planned/pending permitting-related activities of the applicant, its employees, subcontractors, or collaborators disclosed?	

Summary of Technical Evaluation Score

Minimum Passing Technical Evaluation Points: 75

Total Possible Technical Evaluation Points: 100

Non-Technical Preference Points

A Bidder may qualify for up to seven categories of non-technical preference points. Each qualifying Bidder with a technical evaluation score of 75 points or greater will receive the applicable preference points. The sum of the Bidder's technical evaluation score and preference points will constitute the Bidder's total score. Proposals will be ranked based upon the Bidder's total score. Forms submitted for preference points must be included in Volume 1.

III. EVALUATION PROCESS AND CRITERIA

Small/Micro Business

Bidders who qualify as a State of California certified small business or who self-certify under the Federal Government statutes as a small business will receive five percent (5%) preference points based on the technical evaluation points received by the highest scored proposal, if the highest scored proposal is submitted by a business other than a certified small business. Instructions for becoming certified by the State of California as a small or disabled veteran owned business is contained in RFP Attachment 3. The applicant must declare this on Attachment 1, Application Form.

Non-Small Business

Government Code Section 14838(b) (1) (2) now provides for a non-small business preference.

The preference to a non-small business bidder that commits to small business or micro-business subcontractor participation of twenty-five percent (25%) of its net bid price shall be five percent (5%) of the highest responsive, responsible bidder's total score (RFP secondary). A non-small business, which qualifies for this preference, may not take an award away from a certified small business. The small business regulations are located at 2 CCR 1896. The applicant must declare this on Attachment 1, Application Form.

Disabled Veteran Business Enterprise

The DVBE Incentive program was established pursuant to Military & Veterans Code Section 999.5(2) and Department of General Services' Regulations 2 CCR 1896.98 et.seq. The information in Attachment 3 explains how the incentive is applied and how much of an incentive will be given.

California-Based Entity

Public Resources Code Section 25620.5(h & i) requires the PIER Program to give priority to "California-based entities" (CBEs) when making awards. To implement this law, the Energy Commission will award preference points if the proposal meets the criteria for a CBE as described in Attachment 7.

Target Area Contract Preference Request

The Target Area Contract Preference Act (Government Code Section 4530 *et seq*.) provides five percent (5%) preference points to California-based companies that perform state contract work in a distressed area. Bidders should complete RFP Attachment 9 if they qualify for this preference. If you have further questions or need additional information on this matter, please contact TACPA/LAMBRA Preference Program Group at (916) 375-4609.

Enterprise Zone Request

The Enterprise Zone Act (Government Code Section 7070, et seq.) provides preference points as an incentive for business and job development in distressed and declining areas of the State. Bidders should review RFP Attachment 10 to determine if they qualify for this incentive. If you have further questions or need additional information on this matter, please contact TACPA/LAMBRA Preference Program Group at (916) 375-4609.

Local Agency Military Base Recovery Act

The Local Agency Military Base Recovery Act (LAMBRA, Government Code Section 7118, et seq.) provides five percent (5%) preference points to California-based companies that perform State contract work in the LAMBRA. Bidders should review RFP Attachment 11 to determine if they qualify for this preference. If you have further questions or need additional information on this matter, please contact TACPA/LAMBRA Preference Program Group at (916) 375-4609.

IV. ADMINISTRATIVE INFORMATION

About This Section

This section provides Bidders with information on definitions of important terms, sources of information, how to submit a proposal, confidential information, grounds for rejecting a proposal, and other administrative details. Every proposal must establish in writing the Bidder's ability to perform the RFP tasks listed in the Scope of Work.

Deadline For Submitting a Proposal

All copies of your proposal must be delivered to the Commission Contracts Office during normal business hours no later than the date specified in the Key Activities and Dates. In accordance with Public Contract Code 10344, proposals received after the specified date and time are considered late and will not be accepted. There are no exceptions to this law.

Please allow enough time to deliver your proposal. The Energy Commission has no flexibility to allow late submissions, even if only a few seconds or minutes late. For this reason, we encourage people who deliver proposals in person to arrive at least by 2:30 to avoid any unexpected delays (e.g., traffic, parking, etc.). The Energy Commission will not accept any proposals delivered after 3:00 pm. NO EXCEPTIONS. Please plan accordingly.

Packaging, Labeling, and Delivery Methods for Submittal

Bidders must submit the original and 7 paper copies of each volume. Bidders **must also submit** electronic files of the proposal on **CD-ROM diskette** along with the paper submittal. Electronic files must be in Microsoft Word XP or 2002 and Excel Office Suite formats. Electronic files submitted via e-mail will not be accepted. The original and copies of each volume must be labeled "Request for Proposal 500-10-503," and include the title of the proposal and the appropriate volume number:

"Volume 1 – Administrative Section"

"Volume 2 – Technical and Cost Sections"

Label and deliver your proposal, in a sealed package, as follows:

Person's Name, Phone #
Bidder's Name
Street Address
City, State, Zip Code

RFP # 500-10-503
Research Needs for Utility-Scale Renewable Energy
Contracts Office, MS-18
California Energy Commission
1516 - 9th Street, 1st Floor
Sacramento, CA 95814

A Bidder may deliver a proposal by:

- U. S. Mail
- Personally
- Courier service

Postmark dates of mailing, E-mail and facsimile (FAX) transmissions are not acceptable in whole or in part under any circumstances.

IV. ADMINISTRATIVE INFORMATION

Confidential Information

No confidential information will be accepted during the proposal and selection phase of this solicitation. If any confidential information is submitted, the entire proposal will be rejected and will not be eligible for funding. Proposals containing confidential information will be returned to the Bidder.

The use of confidential information will also not be accepted as part of projects that are funded.

Energy Commission's Confidential Treatment of Proposals

From the beginning of the RFP process until the evaluation is complete and the Notice of Proposed awards is posted or the RFP is cancelled, the Commission is required to hold all information received from Bidders as confidential. However, **proposals and all submittals will become public records** after the Commission completes the evaluation and/or scoring process and the Notice of Proposed Awards is posted or the RFP is cancelled.

Darfur Contracting Act of 2008

Effective January 1, 2009, all Requests for Proposals (RFP) must address the requirements of the Darfur Contracting Act of 2008 (Act). (Public Contract Code sections 10475, et seq.; Stats. 2008, Ch. 272). The Act was passed by the California Legislature and signed into law by the Governor to preclude State agencies generally from contracting with "scrutinized" companies that do business in the African nation of Sudan (of which the Darfur region is a part), for the reasons described in Public Contract Code section 10475.

A scrutinized company is a company doing business in Sudan as defined in Public Contract Code section 10476. Scrutinized companies are ineligible to, and cannot, bid on or submit a proposal for a contract with a State agency for goods or services. (Public Contract Code section 10477(a)).

Therefore, Public Contract Code section 10478 (a) requires a company that currently has (or within the previous three years has had) business activities or other operations outside of the United States to certify that it is not a "scrutinized" company when it submits a bid or proposal to a State agency. (See # 1 on Attachment 12).

A scrutinized company may still, however, submit a bid or proposal for a contract with a State agency for goods or services if the company first obtains permission from the Department of General Services (DGS) according to the criteria set forth in Public Contract Code section 10477(b). (See # 2 on Attachment 12).

Disabled Veteran Business Enterprises (DVBE) Compliance Requirements-

The Disabled Veteran Business Enterprise (DVBE) Program has two inter-related aspects:

Participation Goals: This RFP is subject to a participation goal of three percent (3%) certified California Disabled Veteran Business Enterprise (DVBE) as set forth in Public Contract Code Section 10115 et seq.

And,

Incentive: The DVBE Incentive Program gives a contractor an opportunity to improve their bid status based on the efforts attained from the DVBE Participation Program.

More information regarding DVBE and Small Business is located in Attachments 3 and 4.

Reimbursement for the Cost of Preparing a Proposal

The Bidder is responsible for the cost of developing a proposal, and this cost cannot be charged to the State or the Energy Commission.

IV. ADMINISTRATIVE INFORMATION

Repayment

Requirements

There are two options under this RFP. PIER funds will be provided (a) with royalty payment provisions; or (b) through an exemption, without royalty payment provisions. Repayment is based on royalties once the Contractor generates gross revenues, or a subcontractor generates gross revenues that are paid to the Contractor.

Except as otherwise provided in the "Royalty Exemption Option" discussed below, all parties receiving funds from this RFP will be required to repay one and one-half percent (1½%) of the sales price of each project-related product or right for fifteen (15) years from the first date of sale, as further defined in the PIER Agreement terms and conditions.[10] Alternatively, there is a "Buyout Option" of two (2) times the amount of the PIER funding award, payable within two (2) years from the date royalties are first due.

Exemption

At the discretion of the Commission, a research project may be exempted from the general royalty requirements of this RFP if:

- The research project in question is primarily expected to produce new knowledge and/or understanding of the subject under study, rather than any commercial application of that knowledge, within the next 10 years (e.g., basic research); and
- The Bidder agrees to place all intellectual property developed from the project into the public domain.
- To request exemption from the royalty repayment requirement, the Bidder must check the exemption box on RFP Attachment 1, "Application and Project Information Form," section 6 and must provide an explanation on Attachment 14.

Cancellation or Amendment of this RFP

If it is in the State's best interest, the Commission may amend or cancel this RFP. It is the policy of the Commission not to solicit proposals unless there is a bona fide intention to award an Agreement. The Commission reserves the right to do any of the following:

- Cancel this RFP
- Amend or revise this RFP as needed
- Reject any or all proposals received in response to this RFP.
- Increase or decrease the amount of funds available under this RFP
- Move funding available from any research area to a different research area.

RFP Revisions

If the RFP is changed or revised, the Commission will prepare and mail a formal written addendum to all parties who requested a copy of the RFP from the Commission's Contracts Office and attended the Pre-Bid Conference. In addition, the addendum will be posted on the Energy Commission's Web Site and Department of General Services' Web Site indicated on the back of the RFP cover page.

[10] Posted on the Commission website: www.energy.ca.gov/contracts. PIER Terms and Conditions for specific requirements.

IV. ADMINISTRATIVE INFORMATION

Errors in this RFP Document

If a Bidder discovers any ambiguity, conflict, discrepancy, omission, or other error in the RFP, the Bidder shall immediately notify the Commission's Contracts Office of such error in writing and request modification or clarification of the RFP. Clarifications will be given by written notice to all parties who have obtained an RFP, without divulging the source of the request for clarification. The Commission shall not be responsible for failure to correct errors.

Modification or Withdrawal of a Proposal

Withdrawal/Modification

A Bidder may, by letter to the Contracts Officer, withdraw or modify a submitted proposal before the proposal deadline (due date and time) in the RFP Schedule. Proposals cannot be modified or withdrawn after that date and time.

Immaterial Defect

The Commission may waive any immaterial defect or deviation contained in a Bidder's proposal. The Commission's waiver shall in no way modify the proposal or excuse the successful Bidder from full compliance.

Grounds for Rejection

A proposal **will be rejected** if any of the following occurs:

- The proposal is not received by the time and date set for receipt of proposal listed in this RFP (Public Contract Code, Section 10344(a)).
- The proposal contains confidential material.
- It does not contain a properly executed Contractor Certification Clauses Package
- The proposal is considered nonresponsive to the DVBE program requirements.
- It is lacking a properly executed Darfur Contracting Act certification.
- The proposal does not pass the administrative, completeness, technical eligibility, or technical feasibility screenings.
- The proposal identifies project costs as confidential (or proprietary), including labor rates, overhead, direct labor, other direct costs, profit, and the like.
- The bidder is a public entity, and did not submit a signed Agreement to Private Terms and Conditions Form
- The proposal is primarily aimed at fulfilling regulatory permitting requirements of a specific project.
- The proposal is duplicative.
- The proposal does not identify match funding of at least 20 percent of the requested PIER funding or that the match funding does not meet the requirements set forth in this RFP.

A proposal **may be rejected** if:

- It contains false or misleading statements or references which do not support an attribute or condition contended by the Bidder.
- The proposal does not comply with or contains caveats that conflict with this RFP.
- There is a conflict of interest as determined by the Energy Commission. This includes, but is not limited to, the legal conflicts of interest contained in Public Contract Code Sections 10410, 10411 and 10365.5.
- The proposal is unsigned.
- The proposal is not prepared in the required format described herein.

- The proposal fails to specifically address any of the research areas listed for this RFP, or addresses more than one of the proposed research areas in a single proposal.

Unsuccessful Proposals

After the NOPA is posted, each unsuccessful Bidder may request a debriefing meeting with the Commission Contracts Office. The debriefing meeting is an opportunity for an unsuccessful Bidder to learn why their particular proposal was not successful and may provide insight to improving proposal preparation for future solicitations.

Protest of Awards

A Bidder may file a protest against the proposed awarding of an Agreement. Once a protest has been filed, Agreements will not be awarded until either the protest is withdrawn or DGS decides the matter. Alternatively, the RFP may be cancelled with no awards being made.

Please note that protests are limited to the following grounds which are contained in the California Public Contract Code 10344(a):

- The Energy Commission failed to follow the procedures specified in either subdivision (b) or (c) of 10344.
- The Energy Commission failed to apply correctly the standards for reviewing the format requirements or evaluating the proposals as specified in the RFP.
- The Energy Commission used the evaluation and selection procedure in subdivision (b) of Section 10344, but is proposing to award the agreement to a Bidder other than the lowest responsible Bidder.
- The Energy Commission used the evaluation and selection procedure in subdivision (c) of Section 10344, but failed to follow the methods for evaluating and scoring the proposals specified in the RFP.
- The Energy Commission used the evaluation and selection procedure in subdivision (c) of Section 10344, but is proposing to award the agreement to a Bidder other than the Bidder given the highest score by the Energy Commission Evaluation Committee.

During the five (5) working days that the NOPA is posted, protests must be filed with the DGS Legal Office and the Commission Contracts Office.

Within five (5) days after filing the protest, the protesting Bidder must file with the DGS Legal Office and the Commission Contracts Office a full and complete written statement specifying the grounds for the protest.

If the protest is not withdrawn or the RFP is not cancelled, DGS will decide the matter. There may be a formal hearing conducted by a DGS hearing officer or there may be briefs prepared by the Bidder and the Energy Commission for the DGS hearing officer consideration.

A Bidder wanting to protest should file a detailed, written statement of protest, including this RFP's number (#500-10-503), the name of the state agency involved (California Energy Commission), and the name of the agency contact person (see below) to both of the following:

Department of General Services
Office of Legal Services
Attention: Protest Coordinator
707 Third Street, 7th Floor, Suite 7-330
West Sacramento, CA 95605
Fax: (916) 376-5088

IV. ADMINISTRATIVE INFORMATION

Rachel Grant, Contracts Officer
California Energy Commission
1516 Ninth Street, MS-18
Sacramento, California 95814
Telephone: (916) 654-4379
FAX: (916) 654-4423
E-mail: **rgrant@energy.state.ca.us**

Protests may be sent by regular mail, fax, courier, or personal delivery. Protestants should include their fax numbers if they have one.

Proposal Documents after Award

On the NOPA posting date, all proposals and related material submitted in response to this RFP become the property of the State and a part of the public record.

Bidders' Admonishment

This RFP contains the instructions governing the requirements for submitting a proposal, the format in which the information is to be submitted, the material to be included, the requirements which must be met to be eligible for consideration, and Bidder responsibilities. Bidders must take the responsibility to carefully read the entire RFP, ask appropriate questions in a timely manner, submit all required responses in a complete manner by the required date and time, make sure that all procedures and requirements of the RFP are followed and appropriately addressed, and carefully reread the entire RFP before submitting a proposal.

Agreement Award

The Notice of Proposed Awards (NOPA) will be posted for five (5) working days at the Commission's headquarters in Sacramento, and on the Commission's web site. In addition, each Bidder will be mailed a copy of the NOPA.

Upon completion of the five (5) day notice period, Agreement documents will be prepared and sent to successful Bidders for their signatures. If, for any reason, a successful Bidder does not sign the Agreement documents within time allotted, the Commission may eliminate that proposal from its award list and select the next highest ranked proposal for funding.

The Commission will consider approval of each Agreement at a publicly noticed Commission Business Meeting.

Conditions or Limits on Awards

The Commission reserves the right to condition, modify or otherwise limit any and all PIER funding awards made pursuant to this RFP.

General Agreement Requirements

Term of the Agreement

Refer to the Key Activities and Dates in Section I of this RFP for estimated agreement start and end dates.

IV. ADMINISTRATIVE INFORMATION

Agreement Terms and Conditions

It is the intention of the Energy Commission to use the applicable PIER Terms and Conditions posted on the Energy Commission's Website for any Agreement awarded as a result of this RFP. However, the Energy Commission reserves the right to change them prior to executing an agreement with the selected Bidder(s). The content of this RFP and the Bidder's proposal will be incorporated by reference into the final Agreement.

PIER Terms and Conditions are available at the Web Sites identified on page ii of this RFP. The Commission recommends that both the Bidder and its subcontractors, including their legal counsel, carefully review the Agreement terms and conditions before deciding to submit a proposal.

Agreement Cancellation

The Commission reserves the right to terminate any Agreement awarded through this RFP by providing a 30-day notice to the successful Bidder.

No Agreement until Signatures and Approvals are in Place

The proposed Agreement between the Commission and the successful Bidder is not in effect until the Agreement is signed by all of the parties, which includes approval at a Commission Business Meeting, Bidder signature, Energy Commission signature, and approval by DGS-OLS.

Agreement Amendment

An Agreement executed as a result of this RFP can be amended by mutual consent of the Commission and the Contractor following the current Commission procedure for amending an Agreement, which may include approval by DGS-OLS.

Audit

The Bureau of State Audits, the Energy Commission, an agency of the State or, at the Energy Commission's option, a public accounting firm designated by the Energy Commission may audit an Agreement awarded under this RFP up to a period of three years after the final payment or termination of the Agreement.

Subcontractors

The Bidder must submit the information required in the Project Team Section of the proposal for all Major Subcontractors (those who are budgeted for 25% of the total award or $100,000, whichever is less, or are a DVBE subcontractor) as well as the budget forms.

The Contractor is responsible for the quality of all subcontractor work, and may only replace subcontractors as specified under the Agreement Terms and Conditions.

Prevailing Wage

Some projects under this RFP might be considered public works pursuant to the California Labor Code. If the project is a public work, prevailing wage is required. The California Department of Industrial Relations (DIR) has jurisdiction to decide whether a particular project is or is not a public work. If your project involves construction, alteration, demolition, installation, repair or maintenance work, it probably would be considered by DIR to be a public work. A few of the activities that would probably lead DIR to find that the project involves public works include: cement work, site preparation such as grading, surveying, electrical work such as wiring, and carpentry work. Certain workers are entitled to prevailing wage such as operating engineers, surveyors, carpenters, laborers, etc. However, other trades are not entitled to prevailing wage such as engineers and project superintendents.

Bidders are encouraged to determine if the proposed project involves public works as soon as possible. In order to determine if the proposed project involves public works, you will need to contact DIR. If the Bidder has not received a determination from DIR that the project is not a public work, your budget must provide for the payment of prevailing wages. Please indicate whether the proposed budget includes prevailing wage.

IV. ADMINISTRATIVE INFORMATION

If the proposed project is a public work, DIR maintains a list of covered trades and the applicable prevailing wage. The agreement will include the requirements for a public works project, such as paying prevailing wage, keeping payroll records, complying with working hour requirements, and apprenticeship obligations. See the sample terms and conditions, the Special Condition regarding Prevailing Wage, and the accompanying forms for more information.

For detailed information about prevailing wage and the process to determine if the proposed project is a public work, see Attachments 19-21.

California Environmental Quality Act (CEQA)

Some of the projects selected for funding may meet the definition of a "project" for purposes of CEQA (see Public Resources Code section 21000 et seq.). If this occurs, the Energy Commission's Legal Staff will review the projects to determine whether an exemption applies that would prevent further actions under CEQA. If no exemption applies, certain CEQA requirements (e.g., preparation of a negative declaration or environmental impact report) will have to be met prior to the Energy Commission approving the agreement. The Bidder will have to pay the cost for these activities (please refer to Title 20, California Code of Regulations, Chapter 6, Article 1, including section 2308).

Key Words and Their Definitions

Agreement: The Agreement signed by the Bidder and the Commission, and approved by the California Department of General Services.

Agreement Budget: The proposed Commission-reimbursable expenditures **AND** the Contractor's match fund expenditures for that portion of the project covered by the Agreement term.

Agreement Term: The start and end dates stated in the Agreement between the Commission and the Contractor. The project may be shorter than, coincide with, or extend beyond, the Agreement term. However, all Commission reimbursed and matched activities must occur during the Agreement term.

Application: How a technology, once it is developed, is used to achieve a desired result or objective.

Bidder: Organization submitting a proposal to this RFP.

Contractor: A Bidder, after an Agreement with the Commission has been signed and approved.

Cost Points: The portion of the proposal evaluation dedicated to budgetary and project funding criteria.

Deliverable: Deliverables are products that incorporate the knowledge and understanding gained by performing the activities and that are submitted to the Commission for review, comment and approval.

Demonstration: Showing the operation or working of a commercial configuration of a product or process.

Development: Advancing technological progress towards a final product or process.

DGS: State of California, Department of General Services.

DGS-OLS: State of California, Department of General Services, Office of Legal Services.

Equipment: An item or group of items having a useful life of at least one year, having an acquisition unit cost of at least $5,000, and purchased with Commission funds. ***Equipment*** means any products, objects, machinery, apparatus, implements or tools purchased, used or constructed within the project, including those products, objects, machinery, apparatus, implements or tools from which over thirty percent (30%) of the equipment is composed of materials purchased for the project For purposes of determining depreciated value of equipment used in the Agreement, the project shall terminate at the end of the normal useful life of the equipment purchased, funded and/or developed with Commission funds. The Commission may determine the normal useful life of such equipment.

Goal: For the purposes of the RFP, the desired outcome for California ratepayers and customers that the proposed work will strive to achieve.

Innovation: Previously unknown, unused, or not broadly adopted combination of methods, materials, processes, or conditions.

Key Partners: Participants in the project who are not receiving PIER funds or are not providing match funds but are integral to the outcome of the project. Key Partners may be providing space, testing facilities, demonstration sites or may be a manufacturer or other implementer of the project results.

Key Personnel: Employees or consultants of the Contractor who are critical to the outcome of the project and are being paid with PIER funds. Key Personnel have expertise in the project field or experience that is not available from another source. Replacing these individuals may be difficult, because of their expertise, which may affect the outcome of the project.

Key Subcontractors: Contractors, subcontractors, or vendors to the Contractor who are critical to the outcome of the project and are being paid with PIER funds. Key Subcontractors have expertise in the project field or experience that is not available from another source. Replacing these subcontractors may be difficult because of their expertise, which may affect the outcome of the project. Subcontractors who are DVBEs are also considered Key Subcontractors.

Major Subcontractors: Contractors, subcontractors, or vendors to the Contractor who are budgeted to receive at least $100,000 or 25% of the total PIER contract funds (whichever is less) and must provide detailed budget forms.

Milestone: A significant point in the performance of the project. Examples include the Critical Project Review, the completion of a task, the submittal of a deliverable, the completed installation of a piece of hardware, and the initial operation of a new system.

Minor Subcontractors: Contractors, subcontractors, or vendors to the Contractor who are budgeted to receive less than $100,000 or 25% of the total PIER contract funds (whichever is less) and do not need to provide detailed budget forms.

Objective: Specific strategies to achieve a goal.

Partnerships: In the context of this RFP, “partnerships” are defined broadly to encompass a variety of cooperative relationships such as vendor/customer relationships, government/private sector cooperation, or other business relationships which may or may not be contractual in nature.

Private Benefit: Private benefit is an economic return or profit that the Bidder or a member of the team acquires for its own advantage.

Project: An RD&D effort intended to advance a specific science and/or technology that is guided by a set of goals and objectives and that is implemented according to a valid technical approach.

Proposal: The formal written response to this RFP from the Bidder. If the Commission funds the proposal, the proposal will be expressly incorporated into the Agreement.

IV. ADMINISTRATIVE INFORMATION

Public Benefit: A project produces public benefits if it achieves one or more of the following five objectives: (1) improves energy cost or value, (2) improves the environment, public health and safety, (3) improves energy reliability, quality or sufficiency, (4) strengthens the California economy, and (5) provides consumer choice.

RD&D: Research, Development, and Demonstration

RFP: Request for Proposal. (This entire document) The competitive process for selecting Contractor(s) to provide services for the benefit of the Energy Commission and the public.

Research: The careful, systematic, and reasonably thorough study and investigation in a particular field of knowledge, for the purpose of discovering or establishing facts or principles and developing a product or process.

Stakeholder: An entity, such as an individual, corporation, trade organization, end user, research organization, university, regulatory body, government agency, financial organization, sponsor, or marketer that has a title, financial share, special skill or resource, mandated responsibility, or other direct interest in the undertaking to develop, enable, negotiate, deploy, or commercialize a technology.

State: State of California.

Subcontractor: For the purposes of this RFP, contractors, subcontractors, or vendors to the Contractor.

Successful Bidder: A Contractor and Bidder whose project proposal is accepted by the Energy Commission to be implemented by an Agreement.

Task: A distinct effort that includes a goal, a description of related activities, a list of deliverables, a schedule, and a budget.

Technology: The body of knowledge, system component, device, manufacturing technique, material, etc. that will be improved as a result of the project proposed by the Bidder.

Technology Transfer: Dissemination of technical knowledge and knowhow and the transfer of developed technology and products from research stage to deployment stage.

V. PROPOSAL FORMAT AND REQUIRED DOCUMENTS

About This Section

This section contains the detailed technical and mandatory proposal format requirements, and the approach to be used by the Bidder for the development and presentation of proposal data. The format is prescribed to assist the Bidder in meeting State bidding requirements and to enable the Commission to evaluate each proposal uniformly and fairly. Format instructions must be adhered to, all requirements and questions in the RFP must be responded to, and all required data must be supplied.

Limitation in the Proposal Format and Length

Proposals must be presented in a clear, complete, and concise manner. The Volume 2 Table of Contents, Attachment 13 and Attachment 14, excluding the Appendices, should be kept to a combined maximum of forty (40) pages of text. Bidders are strongly encouraged to limit the length of their proposals, while adequately covering the proposal requirements.

Bidders who believe that supporting documentation or additional explanations exceeding the forty (40) page limit are needed may attach such information in appendices to their proposal. Appendices are appropriate for items such as calculations of public and private benefits and associated discussions, calculations of performance enhancements resulting from successful completion of the proposed work, and summaries of accomplishments from previous RD&D projects that are relevant to the proposed project.

Required Format for a Proposal

All proposals submitted under this RFP must be typed or printed using a standard 11-point font, singled-spaced and a blank line between paragraphs. Pages must be numbered and sections titled. Spiral or comb binding is preferred. Binders, colored photographs and colored graphs are discouraged.

Bidders **must submit** the original and **7 paper** copies of Volume 1 and Volume 2. Submittals must be printed front to back.

Bidders **must also submit** electronic files of the proposal on **CD-ROM diskette** along with the paper submittal. Electronic files must be in Microsoft Word XP or 2002 and Excel Office Suite formats. Electronic files submitted via e-mail will not be accepted.

Organize your proposal as follows (note: not all sections applicable to all proposals):

Volume 1 Administrative Section

Cover letter	
Application and Project Information Form	Attachment 1
Contractor Certification Clauses	Attachment 2
Disabled Veteran Business Enterprise Program Requirements Forms	Attachments 5 & 6
California-Based Entity Questionnaire	Attachments 8
Target Area Contract Preference Act Form (Std. 830), if applicable	Attachment 9
Enterprise Zone Act Preference Request Form (Std. 831), if applicable	Attachment 10
Local Agency Military Base Recovery Area Form (Std. 832), if applicable	Attachment 11
Darfur Contracting Act	Attachment 12

V. PROPOSAL FORMAT AND REQUIRED DOCUMENTS

Volume 2 Technical and Cost Section

Table of Contents

Executive Summary	Attachment 13
Project Description	Attachment 14
Project Manager and Project Team	Attachment 14
Project Funding and Match Funding	Attachment 14
Royalty Payment Exemption	Attachment 14
Scope of Work	Attachment 16, Exhibit A
Schedule of Deliverables & Due Dates	Attachment 17, Exhibit A-1
Detailed Budget	Attachment 17, Exhibit B
List of Contacts, Key Personnel, and Key Subcontractors	Attachment 17, Exhibit F

Appendices:

- Team Resumes
- Match Funding Letters of Commitment
- Other supporting documentation, if applicable

Volume 1 - Administrative Information

The following is a list and brief description of the items (sections) that must be submitted in Volume 1 of each proposal. Bidders should carefully read this format and content information (along with the technical eligibility, completeness and feasibility criteria, as well as the technical and policy evaluation criteria) to understand the relative importance of the information being requested in the Bidder's proposal. The following sections must be included, complete, and accurate, or the proposal will fail the completeness screening and will be rejected prior to technical evaluations.

Cover Letter

The Bidder must submit a cover letter on company letterhead signed by a person who has the authority to bind the Bidder to an Agreement for the proposed work. The letter must include the team they are applying for in the RFP.

Application and Project Information Form, Attachment 1

Complete the Application and Project Information Form. Have a person who is authorized to sign Agreements for your company sign the original of this form as the "Authorized Official." Note that Articles of Incorporation, Partnership Agreement, and Fictitious Name Filing, where appropriate, are requested under Item Number 6, Type of Entity or Business Organization.

Required Administrative Forms and Documents

Contractor Certification Clauses Package, Attachment 2

These are standard terms and conditions required to enter into an Agreement with the State of California.

Disabled Veteran Enterprises Participation Compliance, Attachments 4, 5 & 6

Public Contract Code Part 10115, et seq., and Title 2, California Code of Regulations, Part 1896.62, require all Contractors who are not governmental agencies to pursue Disabled Veteran Business Enterprise (DVBE) participation in their project. Bidders must have three (3) percent DVBE participation in the project. Failure to comply with this requirement by submitting complete DVBE documentation in the proposal will result in immediate rejection of the bid and disqualification from eligibility and completeness screening, technical evaluation scoring and Agreement award.

Use Attachments 5 and 6 to document DVBE participation. It is important that Bidders thoroughly read the instructions provided in Attachment 4.

Small Business Preference, Attachments 3

Bidders who qualify as a State of California certified small business or who self-certify under the Federal Government statutes as a small business will receive five percent (5%) preference points based on the cost points received by the highest scored proposal, if the highest scored proposal is submitted by a business other than a certified small business. Instructions for becoming certified by the State of California as a small or disabled veteran owned business is contained in RFP Attachment 3.

California-Based Entity, Attachments 7 & 8

Public Resources Code Section 25620.5(h & i) requires the PIER Program to give priority to "California-based entities" (CBEs) when making awards. To implement this law, the Energy Commission will award preference points if the proposal meets the criteria for a CBE as described in Attachment 7.

Darfur Contracting Act of 2008, Attachment 12

Effective January 1, 2009, all Requests for Proposals (RFP) must address the requirements of the Darfur Contracting Act of 2008 (Act). (Public Contract Code sections 10475, et seq.; Stats. 2008, Ch. 272). The Act was passed by the California Legislature and signed into law by the Governor to preclude State agencies generally from contracting with "scrutinized" companies that do business in the African nation of Sudan (of which the Darfur region is a part), for the reasons described in Public Contract Code section 10475.

Volume 2 – Technical and Cost Information

The following is a description of the items (sections) that must be submitted in Volume 2 of each proposal. Bidders should carefully read this format and content information (along with the eligibility, completeness and feasibility criteria, and the evaluation criteria presented above) to understand the relative importance of the information being requested in the proposal. The following sections must be included or the proposal will fail the completeness screening and will be rejected prior to technical evaluations.

Below is a detailed description of the information the Bidder should present in Volume 2.

Table of Contents

Executive Summary, Attachment 13

Bidders must use this template to prepare an Executive Summary (no more than two [2] pages). The instructions provided in Attachment 13 will guide the Bidder in completing this section of the proposal.

Project Description, Attachment 14

Bidders must use the template provided to document the proposed project description. The instructions provided in Attachment 14 will guide the Bidder in completing this section of the proposal.

Project Manager and Project Team, Attachment 14

Bidders must use the template provided to document the proposed Project Manager and project team. The instructions provided in Attachment 14 will guide the Bidder in completing this section of the proposal.

Project Funding and Match Funding, Attachment 14

Bidders must use the template provided to document the proposed project funding and match funding. The instructions provided in Attachment 14 will guide the Bidder in completing this section of the proposal.

V. PROPOSAL FORMAT AND REQUIRED DOCUMENTS

Royalty Payment Exemption, Attachments 1 & 14

Bidders must check the box for request for Royalty Payment Exemption on Attachment 1 and document the reason for such request on Attachment 14.

Project Scope of Work, Attachments 15 & 16, Exhibit A

Bidders must use the template provided to describe the proposed project scope of work. There are detailed instructions to complete Attachment 16 provided in Attachment 15, as well as examples, to facilitate the preparation of this section of the proposal.

Schedule of Deliverables & Due Dates, Attachment 17, Exhibit A-1

Bidders must provide a completed Schedule of Deliverables and Due Dates following the instructions contained in that attachment.

Detailed Budgets, Attachment 17, Exhibit B

Bidders must provide completed budget templates, following the instructions contained in that attachment. Failure to provide unloaded rates and detailed break-out of fees will result in rejection of the entire proposal for completeness.

List of Contacts, Attachment 17, Exhibit F

Bidders must complete the List of Contacts.

Appendices

Bidders must attach all information not covered in the previous forms as appendices, including but not limited to: resumes of Key Personnel and Key Subcontractors, PAC letters, match letters, etc.

VI. RFP ATTACHMENTS

TABLE OF CONTENTS

Note that several of the RFP Attachments (labeled Exhibits) will become part of the Agreement that is signed by the awarded Bidder.